45. A method for treating atrial fibrillation in a patient comprising:

opening the heart of the patient; and

ablating at least one linear lesion in the heart tissue using an irrigation probe as recited in claim 6.

46. A method for treating atrial fibrillation in a patient comprising:

opening the heart of the patient; and

ablating at least one linear lesion in the heart tissue using an irrigation probe as recited in claim 26.

47. A method for treating atrial fibrillation in a patient comprising:

opening the heart of the patient; and

ablating at least one linear lesion in the heart tissue using an irrigation probe as recited in claim 44.

REMARKS

Claims 2 to 47, as amended, are pending in the application. Claims 2, 5 to 7, 41, and 42 have been amended. Claim 1 has been cancelled. Attached hereto is a marked-up version of the changes made to the claims by the current amendment, which is captioned "**Version with markings to show changes made.**" The amendments find full support in the original specification, drawings and claims. No new matter is presented. Examination of the claims as amended and timely indication of allowance are respectfully requested.

I. Claim Rejections Based on 35 U.S.C. § 112

The Examiner rejected claims 6 to 23 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner states that "[c]laims 6 and 7 are indefinite because it is not clear if the infusion tube is part of the ablation electrode (as shown in figure 1) or is an additional tube."

Applicant has amended claim 6 to call for an "irrigation ablation probe comprising . . . an infusion tube having proximal and distal ends . . . the distal end of the infusion tube being attached to the ablation electrode." The infusion tube can be separate from or integral with the ablation electrode. For example, as recited in amended claim 7, the infusion tube is formed by the tubular electrode that makes up the probe body. Accordingly, Applicant respectfully submits that claim 6, as well as claims 7 to 23 that depend on claim 6, particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant therefore respectfully requests that the rejection under section 112, second paragraph, be withdrawn.

II. Claim Rejections Based on 35 U.S.C. § 102

A. Rejection Based on Panescu, U.S. Pat. No. 6,056,745

The Examiner has rejected claims 1 to 8, 12, 15, 16, and 18 under 35 U.S.C. § 102(e) as allegedly anticipated by Panescu, U.S. Pat. No. 6,056,745. Applicant respectfully traverses this rejection.

Independent claims 2 and 6 call for "a generally rigid probe body." Panescu, on the other hand, does not disclose "a generally rigid probe body." Instead, it discloses "a flexible catheter body" (column 4, lines 51 to 53). Panescu is directed to an entirely different structure and nowhere teaches or suggests to make the body of the device rigid. Moreover, there is no motivation to modify Panescu's device to have a rigid body because doing so would destroy its intended function, namely, to feed the catheter body through the veinous system to gain access into interior regions of the body. (See generally column 1, lines 19 to 21.) Accordingly, Applicant respectfully submits that claims 2 and 6 are not anticipated by Panescu under 35 U.S.C. § 102(e).

Claims 3 to 5 are dependent on claim 2, and claims 7, 8, 12, 15, 16, and 18 are dependent on claim 6. As such, dependent claims 3 to 5, 7, 8, 12, 15, 16, and 18 are similarly allowable over Panescu based upon claims 2 and 6. Accordingly, Applicant respectfully requests that the rejection under section 102(e) over Panescu be withdrawn.

B. Rejection Based on Racz et al., U.S. Pat. No. 6,146,380

The Examiner rejected claims 1, 5 to 7, 12 to 15, 17, and 18 under 35 U.S.C. § 102(e) as allegedly anticipated by Racz et al., U.S. Pat. No. 6,146,380. Applicant respectfully traverses the rejection for the following reasons.

1. Independent Claims 2 and 6

Applicant cancelled independent claim 1 and incorporated the limitations of claim 1 into claim 2, making claim 2 independent. Racz does not anticipate independent claim 2, as acknowledged by the Examiner by not rejecting claim 2 over Racz.

Applicant has amended claim 6 to call for an "irrigation ablation probe comprising a generally rigid probe body having proximal and distal ends and comprising an ablation electrode at its distal end, . . . a handle mounted to the proximal end of the probe body, the handle comprising a housing having a generally open interior; and an infusion tube having proximal and distal ends and extending through the probe body for introducing fluid into the ablation electrode, the distal end of the infusion tube being attached to the ablation electrode." Claim 6, as amended, contains all the limitations of independent claim 2 and therefore is not anticipated by Racz since Racz, as discussed above, does not anticipate claim 2. Furthermore, the cannula disclosed in Racz does not have "a handle mounted to the proximal end of the probe body" (figure 1). The only object at the base of the electrode in Racz is a "hub 20" for the purpose of "accommodating an electrical probe 22 which includes a segment that is inserted into and received by the shaft 12 of the cannula" (column 3, lines 60 to 63). The hub in Racz is not a handle. A handle is a "part that is designed especially to be grasped by the hand." Webster's Third New International Dictionary of the English Language Unabridged 1027 (Philip Babcock Gove et al. eds., 1993, copy enclosed). A handle is completely different from a hub, which is "the enlarged base by which a hollow needle (as for a hypodermic) may be attached to a syringe or other device." Id. at 1098.

Furthermore, Racz does not disclose "an infusion tube . . . extending through the probe body for introducing fluid into the ablation electrode, the distal end of the infusion tube being attached to the ablation electrode," as also recited in claim 6. The only object "extending through" the "cannula 33" in Racz is a "probe shaft 54" to communicate electrical signals to the "electrode shaft 54" (figure

2B; column 5, lines 41 to 45). The probe shaft, as disclosed in Racz, is not an infusion tube since it does not have a hollow interior through which fluids could be introduced into the electrode.

For the foregoing reasons, Applicant respectfully submits that claim 6 is similarly not anticipated by Racz under section 102(e).

2. Claims Dependent Upon Independent Claims 2 and 6

Claim 5 now depends on claim 2 and, as such, is believed to be allowable over Racz. Claims 7, 12 to 15, 17, and 18 depend on claim 6. As such, these dependent claims are believed to be allowable over Racz. Furthermore, these dependent claims are allowable for the following specific reasons.

Claim 13 calls for a "tubular electrode . . . made of a malleable material." The electrode in Racz, on the other hand, is not made of a malleable material. Instead, it is rigid, having a permanently bent, and therefore non-malleable, tip (column 3, lines 40 to 42). Such rigidity is necessary for the cannula in Racz since it "enables self-penetration of tough tissues near hard, bony structures" (column 3, lines 4 to 7). Accordingly, Applicant respectfully submits that claim 13 is not anticipated by Racz.

Claim 14 calls for an "irrigation ablation probe" wherein "the proximal end of the electrode is mounted in the handle." For the reasons set forth in Part II.B.1 above, the cannula in Racz does not have a "handle." Moreover, Racz's cannula does not have a tubular electrode with its proximal end "mounted in" a "handle." Accordingly, Applicant respectfully submits that claim 14 is not anticipated by Racz.

Claim 15 calls for "a flexible plastic tubing attached to the proximal end of the tubular electrode for introducing fluid into the tubular electrode." Racz, on the other hand, as discussed in Part II.B.1 above, does not disclose "a flexible plastic tubing attached to the proximal end of the tubular electrode for introducing fluid into the tubular electrode." Accordingly, Applicant respectfully submits that claim 15 is not anticipated by Racz.

Finally, claim 16 calls for a "flexible plastic tubing . . . attached to the proximal end of the tubular electrode within the handle." As discussed earlier, Racz discloses neither a "flexible plastic tubing" nor a "handle," and therefore Racz does not disclose "flexible plastic tubing . . . attached to

the proximal end of the tubular electrode within the handle." Accordingly, Applicant respectfully submits that claim 16 is not anticipated by Racz.

For all these reasons, Applicant respectfully requests that the rejection under section 102(e) over Racz be withdrawn.

III. Claim Rejections Based on 35 U.S.C. § 103

The Examiner rejected claims 9 to 11 and 19 to 23 under 35 U.S.C. § 103 as allegedly unpatentable over Panescu, U.S. Pat. No. 6,056,745, and Racz et al., U.S. Pat. No. 6,146,380. Claims 9 to 11 and 19 to 23 are dependent on claim 6, which, as discussed above, is patentable over Panescu and Racz. As such, claims 9 to 11 and 19 to 23 are believed allowable based upon claim 6. Accordingly, Applicant respectfully requests that the rejection under section 103 over Panescu and Racz be withdrawn.

IV. Pending Claims 24 to 39 and 41 to 47

Pending claims 24 to 39 and 41 to 47 have been withdrawn from consideration. These claims are dependent on claims 2 and 6, however, and as such, they are believed to be allowable. No further search is required in connection with these claims. Accordingly, Applicant respectfully requests that claims 24 to 39 and 41 to 47 also be allowed.

V. Conclusion

In view of the above amendment and remarks, Applicant respectfully submits that the claims are patentably distinct over the prior art and that all the rejections to the claims have been overcome. Reconsideration and reexamination of the above Application is respectfully requested. If there are any remaining

issues that can be addressed by telephone, Applicant invites the Examiner to contact the undersigned at the number indicated below.

Respectfully submitted,

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Enclosure: Pages from Webster's Dictionary
KMO PAS372861.1-*-8/20/01 10:29 AM

VERSION WITH MARKINGS TO SHOW CHANGES

2. (Amended) An irrigation ablation probe [according to claim 1, further] comprising:

a generally rigid probe body having proximal and distal ends and comprising an ablation electrode at its distal end, wherein the ablation electrode defines an inner cavity, the ablation electrode having at least one irrigation opening through which fluid can pass from the inner cavity to the outside of the ablation electrode;

means for introducing fluid into the inner cavity; and

a handle mounted at the [distal] proximal end of the probe body, the handle comprising a housing having a generally open interior.

5. (Amended) An irrigation ablation probe according to claim [1] 2, wherein the generally rigid probe body comprises a malleable material.

6. (Twice Amended) An irrigation ablation probe comprising:

a generally rigid probe body having proximal and distal ends and comprising an ablation electrode at its distal end, the ablation electrode having at least one irrigation opening through which fluid can pass to the outside of the ablation electrode;

a handle mounted to the proximal end of the probe body, the handle comprising a housing having a generally open interior; and

an infusion tube having proximal and distal ends and extending through the probe body for introducing fluid into the ablation electrode, the distal end of the infusion tube being attached to the ablation electrode.

7. (Amended) An irrigation ablation probe according to claim 6, wherein the generally rigid probe body comprises:

a tubular electrode having proximal and distal ends, wherein the tubular electrode forms the infusion tube; and

a non-conductive sheath covering a portion of the tubular electrode.

41. (Amended) A method for treating atrial fibrillation in a patient comprising:

opening the heart of the patient; and

ablating at least one linear lesion in the heart tissue using an irrigation probe as recited in claim [1] 2.

42. (Amended) An irrigation ablation probe according to claim [1] 2, wherein the means for introducing fluid into the inner cavity comprises an infusion tube having proximal and distal ends and extending through the probe body.